

#### ABSTRACT OF THE DISCLOSURE

A system-on-chip imaging system includes an image sensor of a two-dimensional array of pixel elements providing pixel data representing an image of a scene, a data memory for storing pixel codewords whereby at least some of the pixel codewords are indicative of the pixel data, a programmable lookup table for providing LUT codewords as output data, and a processing unit for receiving LUT codewords from the lookup table and generating output image data. In operation, a first pixel codeword stored in the data memory is used to index the lookup table for causing the lookup table to provide a respective LUT codeword to the processing unit. The processing unit operates to perform one or more image processing functions in response to the LUT codeword. The lookup table can be programmed to perform a variety of image processing functions, including defective pixel correction, CDS subtraction, privacy masking and dark signal subtraction.